



The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

August 17, 1977

D.P.U. 18350

Petition of New England Power Company for a determination by the Department that certain electric transmission lines which will begin in the Town of West Boylston at a connection with the Petitioner's existing West Boylston Switch Station, so-called, and extend for a distance of approximately 0.91 miles in a generally southwesterly direction through portions of said town connecting in West Boylston with the proposed West Boylston Substation #47 of the Petitioner, for the purpose of supplying electricity to itself and to its affiliate, Massachusetts Electric Company, for distribution and sale by the latter, are necessary, will serve the public convenience and be consistent with the public interest, and for said Department to authorize the Petitioner to construct and use said lines.

D.P.U. 18351

Petition of the New England Power Company for a determination by the Department that the present situation of certain lands in the Town of West Boylston and certain lines for the transmission of electricity to be built and maintained thereon are reasonably necessary for the convenience and welfare of the public, and that such lands and the facilities to be built and maintained thereon be exempted from the operation of the zoning by-law of the Town of West Boylston to the extent applicable.

D.P.U. 18352

Petition of New England Power Company for a determination by the Department that the present situation of a parcel of land owned by the Petitioner off the northwesterly side of Temple Street in West Boylston, Massachusetts, as shown in detail on maps or plans on file with the Department, and the electric substation facilities to be erected and maintained thereon by the Petitioner for the transmission and distribution of electricity, are reasonably necessary for the convenience and welfare of the public, and that said land and the substation structures to be built and maintained thereon be exempted from the operation of the zoning by-law of said town to the extent applicable thereto.

APPEARANCE: Albert V. Colman, Jr., Esq.
20 Turnpike Road, Westborough, Massachusetts 01581

for: Petitioner, New England Power Company

On April 15, 1975, the New England Power Company ("Company") filed with the Department of Public Utilities ("Department") a series of three petitions concerning the construction and use of proposed lines in the Town of West Boylston, Massachusetts, for the transmission of electricity at 69 kV beginning at the Company's West Boylston Switch Station⁽¹⁾ so called, and extending to a proposed West Boylston Substation #47. The proposed lines would travel parallel to an existing 69 kV circuit, A1/B2, on Company right of way for a distance of approximately .72 miles.

The petition in D.P.U. 18350 is brought under the provisions of section 72 of Chapter 164 of the General Laws for a determination by the Department that the proposed lines are necessary, will serve the public convenience and be consistent with the public interest, and to authorize the Petitioner to construct and use the proposed transmission lines.

The petition in D.P.U. 18351 is brought under section 10 of Chapter 40A of the General Laws requesting the Department to determine that the transmission lines are reasonably necessary for the convenience and welfare of the public and to exempt the proposed transmission lines from the operation of the zoning by law of the Town of West Boylston.

In D.P.U. 18352, the Department is asked to determine, under Chapter 40A, section 10, that the present situation of a parcel of land and the proposed substation facilities are reasonably necessary for the convenience and welfare of the public and to exempt the same from the operation of the zoning by law of the Town of West Boylston.

A public hearing was held regarding the foregoing matters at the Town Hall, West Boylston, Massachusetts, on May 25, 1976, at which time all parties

(1) The West Boylston Switch Station is partially owned by the Metropolitan District Commission ("MDC") and is located on MDC land.

in interest were given an opportunity to be heard. Mr. Kezer, Selectman of the Town of West Boylston, and Mr. Charles Coughlin, Manager of the Municipal Light Plant of the Town of West Boylston, appeared and requested assurance that the proposed facilities, which are the subject of the said petitions, would be for the transmission of electricity in bulk rather than for the distribution and sale of electricity. No appearances were made in opposition to the proposed substation or 69 kV transmission lines.

Need for the Proposed Facilities

The proposed transmission lines are needed primarily to improve firm capability and maintain reliability of customer service in the northern part of the City of Worcester and the Towns of Rutland and Holden, and to five municipal customers: namely, Shrewsbury, Holden, Paxton, Boylston and West Boylston. These lines would extend the existing A53/B54 circuit approximately .72 miles from the company's existing West Boylston Switch Station to automatic 69 kV switchgear at the Company's proposed West Boylston Substation #47.

Existing lines A1/B2 and A53/B54 are sixty and forty years old, respectively. A1/B2 interconnect Millbury and Pratts Junction, while A53/B54 tap off these lines at the Company's West Boylston Switch Station to supply Cooks Pond Substation.

Lack of firm capability could occur during a peak load period with a single contingency on one of the existing lines. If a permanent fault caused an extended outage of the B2 line between Pratts Junction and Greendale Substations, an overload condition could result on the A1 line section between the Pratts Junction and Fitch Road Substations. This overload exceeds the winter emergency capability of that line.

The reliability problem in this area is compounded by the amount of line exposure which exists with the present arrangement of the A53/B54 lines tapping off the A1/B2 lines. The worst condition will occur on the A1 and A53 combination with A1 tied through between Millbury and Pratts Junction. This condition will result in about 34.0 miles of line exposure so that a permanent fault anywhere on A1 or B53 lines could cause an outage on the entire 34.0 miles of lines.

Area load growth prior to voluntary energy conservation was in the order of seven to eight per cent. As a result of conservation efforts by area customers, growth rate has been less than four per cent over the past four years. The Company has projected growth at an annual rate of eight per cent from 1977 through 1980. The Department has reviewed several independent studies on regional load growth. The results of these studies indicate that a growth rate for the area is in the order of approximately five per cent. At this conservative rate of five per cent, the present design of the lines will subject them to an increased probability of outages in the future.

Purpose of Proposed Facilities

The proposed transmission line extension and substation will provide lines A1/B2 and A53/B54 with protection and automatic sectionalizing via three 69 kV oil circuit breakers. This scheme will split both the A1/B2 combination and the A53/B54 combination of lines into three segments each with automatic switching, reducing line exposure to about thirteen miles instead of thirty-four miles. The automatic switching will permit faults to be isolated in the affected line segment and will not disrupt service in the entire thirty-four miles of either combination of lines as it does now. An additional advantage is that, for a single contingency, the supply to this area will be reduced by only one 69 kV line from

either source leaving one line from one source plus two lines from the alternate source in operation. The firm capability will thus be improved resulting in acceptable emergency loading on the A1/B2 lines during a single contingency.

Zoning

The use of the land for transmission line purposes alleged is not permitted in the zoning by law of the Town of West Boylston. The locations of the proposed lines and the distances through which the proposed lines will extend in the Town of West Boylston are shown in Exhibits 6 and 8 and are as follows:

0.15 miles in a Single Residence and Business District
(in common)

0.52 miles in a Single Residence District

0.05 miles in a Single Residence and General Residence
District (in common)

0.19 miles in a General Residence District

The use of the land for substation purposes is also not permitted by the zoning by law of the Town of West Boylston

Description of the Proposed Facilities

The existing switching structure on lines A53/B54 is located on MDC land at the northwest corner of the Wachusett Reservoir in the town of West Boylston. This structure will be dismantled and retained by the MDC and the A53/B54 lines will be extended along existing right of way approximately .72 miles south, to the site of the proposed West Boylston Substation #47. The proposed circuits are designed utilizing single circuit wood pole construction. This design provides for low probability of double circuit flashover due to lightning and allows for repair of one line while the second line remains energized.

Installation of the West Boylston Substation #47 will consist of a two bay terminating structure to terminate four 69 kV lines, a twenty by thirty foot control house, three 69 kV oil circuit breakers together with the necessary disconnect

switches, and terminating facilities for two additional 69 kV circuits.

In this construction phase, a 115 kV line must be temporarily re-located. This temporary structure will be adjacent to the control house and will be approximately 65 feet high. It will be removed at the time of a proposed future development of this substation which will entail connecting four 115 kV and six 69 kV transmission lines via two 100 MVA autotransformers. (The above discussion of future development is for information only at this time and is not the subject of this order).

Environmental Considerations

The possible environmental impact of the proposed 69 kV overhead transmission line and the proposed substation has been analyzed in the manner prescribed by the Massachusetts Environmental Policy Act, section 62, Chapter 30 of the General Laws.

The proposed lines and substation will not involve any air or water pollution, notwithstanding possible temporary noise and dirt during construction. There will be no unapproved construction in wetlands. Pesticides will not be used and herbicides will be selectively used as necessary to eliminate undesirable sprouting of large growth within the right of way. There will be only temporary disturbance to wildlife in the area during construction. Topography will not be changed, so drainage and normal runoff will not be affected.

Pursuant to section 62 as amended, and the Department's procedural rules regarding environmental reporting (D.P.U. 18103), the Department, on May 19, 1975 submitted a Limited Environmental Assessment Form (LEAF No. 01888), to the Executive Office of Environmental Affairs.

On June 30, 1975, the Secretary of the Executive Office of Environmental Affairs issued a comment that the LEAF adequately and properly complied with section 62 and the regulations governing the preparation of environmental impact reports. The Executive Office of Environmental Affairs further decided that a

Limited Environmental Impact Report was not necessary

Accordingly, after notice, as provided by statute, a public hearing, an evaluation of the impact on the natural environment, an inspection of the area, and consideration of the evidence, the Department is of the opinion and hereby

FINDS:

- 1) the construction and operation of the two single circuit 69 kV lines for the purpose of extending the existing A53/B54 lines to the site of the proposed West Boylston Substation #47, is justified.
- 2) the construction and operation of the West Boylston Substation #47 for the purposes of switching and sectionalizing the A1/B2 and A53/B54 69 kV circuits is justified, and

DETERMINES: The proposed transmission lines and substation are necessary for the purposes alleged, will serve the public convenience and be consistent with the public interest, and hereby

GRANTS: Authority to the Petitioner to construct and use the proposed transmission lines and substation for the purposes of switching and sectionalizing.

DECIDES: That the proposed situation of the right of way and substation site in question and the structures to be built and maintained thereon are reasonably necessary for the convenience and welfare of the public

Accordingly, it is

ORDERED that the right of way from the Company West Boylston Switching Station and extending approximately .72 miles to the site of the proposed West Boylston Substation #47 as shown in Exhibits numbered 6B and 8, and the 69 kV transmission lines to be constructed thereon, are hereby exempted from the zoning by law of the Town of West Boylston pursuant to the provisions of section 10 of Chapter 40A of the General Laws as amended to the extent it may be

used for the transmission line purposes in accordance with the testimony given at the hearings, D.P.U. 18350, 18351 and 18352. The installation of these lines is to conform to all applicable codes, standards and regulations. It is further

ORDERED: That the parcel of land owned by the Company known as the proposed West Boylston Substation #47 and described as follows:

Beginning at the most northwesterly corner of said portion of said parcel at a point at other land of New England Power Company, said point being 160.0 feet S 34° 00' 00" E from a stone bound at the corner of land of the Commonwealth of Massachusetts, Metropolitan District Commission and the Boston and Maine Corporation;

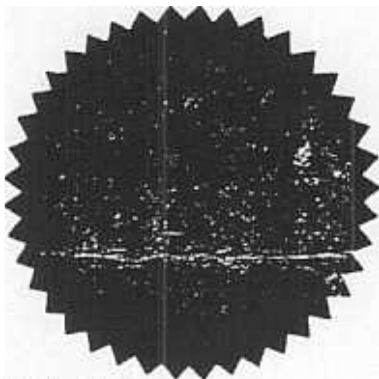
thence running N 57° 53' 50" E, 130.0 feet to a point;
thence turning and running S 32° 06' 10" E, 260.0 feet to a point;
thence turning and running S 57° 53' 50" E, 130.0 feet to a point;
thence turning and running S 32° 06' 10" W, 260.0 feet to the point
of beginning--all of said courses and distances being by
said other land of New England Power Company,

is hereby exempted from the zoning by law of the Town of West Boylston, pursuant to the provisions of section 10 of Chapter 40A of the General Laws as amended, to the extent it may be used for the purpose of 69 kV switching and sectionalizing of transmission lines A1/B2 and A53/B54 as set forth in testimony given at the hearings in D.P.U. 18350, 18351 and 18352.

By order of the Department,

(signed) HAROLD J. KEOHANE

Chairman



TRUE COPY

At test:

Harold J. Keohane

Chairman

Appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. (Sec. 5, Chapter 25, G. L., Ter. Ed. as most recently amended by Chapter 485 of the Acts of 1971)